

### **Amendments of the Claims:**

A detailed listing of all claims in the application is presented below. This listing of claims will replace all prior versions, and listings, of claims in the application. All claims being currently amended are submitted with markings to indicate the changes that have been made relative to immediate prior version of the claims. The changes in any amended claim are being shown by ~~strikethrough~~ (for deleted matter) or underlined (for added matter).

1. (Currently amended): A testing system for collecting, storing, and reviewing digital data, serial data, and video data related to events occurring in an automated system comprising a plurality of subsystems comprising an automated controller and at least one peripheral sensor under the direction of ~~an~~ the automated controller, the testing system comprising:
  - a) a digital signal capture card for sensing and collecting discrete digital signals of the automated system as digital data;
  - b) a multi-port serial port expansion card for sensing and collecting serial digital communication messages between the subsystems as serial data;
  - c) a video frame grabber and compression card for sensing and collecting video signals as video data;
  - d) ~~means a device~~ for indexing and storing said digital data, serial data, and video data with time tags; ~~e) means~~ wherein said time tags are used for relating occurrence of a particular item of a particular data type, whether digital data, serial data, or video data, to the most closely time-related data item from the other said data types; and~~e)~~ a display for control of said testing system and presentation of ~~recorded~~ said digital data, serial data, and video data to a user during review.
2. (Currently amended): The testing system of claim 1, wherein ~~reviewed~~ discrete digital data are presented in graphical strip chart format on the display during review.

3. (Currently amended): The testing system of claim 1, wherein ~~reviewed~~ video data are presented in picture format of still image or time-motion video images on the display during review.
4. (Currently amended): The testing system of claim 1, wherein ~~reviewed~~ serial ~~communication~~ data are presented in time-ordered message sequence on the display during review.
5. (Currently amended): The testing system of claim 1, wherein ~~reviewed~~ serial ~~communication~~ data are presented as recorded in hexadecimal or ASCII format during review.
6. (Currently amended): The testing system of claim 1, wherein ~~reviewed~~ serial ~~communication~~ data are translated according to message parsing rules during review.
7. (Currently amended): A testing system for collecting, storing, and reviewing digital data, serial data, and video data related to events occurring in an automated system comprising a plurality of subsystems comprising an automated controller and at least one peripheral sensor under the direction of an the automated controller, the testing system comprising a display for displaying said data, and operatively connected to:
  - a) means for sensing and collecting discrete digital signals of the automated system as digital data;
  - b) means for indexing and storing said digital signals data;
  - c) means for sensing and collecting serial digital communication messages between the subsystems as serial data;
  - d) means for indexing and storing said serial messages data;
  - e) means for sensing and collecting video signals as video data;
  - f) means for indexing and storing said video signals data; and
  - h) means for relating occurrence of a particular item of a particular data type, whether digital data, serial data, or video data, to the most closely time-related data item from the

other said data types, retrieving and displaying said time-related data items, according to data ~~the~~ type and data item directed by a user; ;

wherein said display displays each data type, whether digital data, serial data, or video data, in a time-synchronized manner; ; and

wherein said user directs a displayed time of any individual data type, whether digital data, serial data, or video data, and the remaining two data types are automatically moved to a newly directed time.

8. (Currently amended): The testing system of claim 7, wherein ~~reviewed discrete~~ digital data are presented in graphical strip chart format on the display during review.
9. (Currently amended): The testing system of claim 7, wherein ~~reviewed~~ video data are presented in picture format of still image or time-motion video images on the display during review.
10. (Currently amended): The testing system of claim 7, wherein ~~reviewed~~ serial ~~communication~~ data are presented in time-ordered message sequence on the display during review.
11. (Currently amended): The testing system of claim 7, wherein ~~reviewed~~ serial ~~communication~~ data are presented as recorded in hexadecimal or ASCII format during review.
12. (Currently amended): The testing system of claim 7, wherein ~~reviewed~~ serial ~~communication~~ data are translated according to message parsing rules during review.
13. (Currently amended): The testing system of claim 1, wherein one or more of said serial digital communication messages are transmitted via serial communication port and wherein said digital signals are asserted via a digital input/output card.
14. (Currently amended): The testing system of claim 13, wherein recorded video is output for viewing.

15. (New): A method of testing and evaluating an automated system comprising a plurality of subsystems comprising an automated controller and at least one peripheral sensor, the method comprising the steps of:

- a) recording discrete digital signals of the automated system as digital data;
- b) recording serial digital communication messages between the subsystems as serial data;
- c) recording video images of the automated system as video data;
- d) indexing and storing said digital data, serial data, and video data with time tags; and
- e) displaying said digital data, serial data, and video data on a single display in a time-synchronized manner based on time tags.

16. (New): The method of claim 15, wherein step d) comprises the sub-step of storing said digital data, serial data, and video data on a computer hard drive.

17. (New): The method of claim 15 further comprising the step of searching said digital data, serial data, and video data for a particular event, a sequence of events, or a combination of events.

18. (New): The method of claim 15, wherein steps a), b), and c) occur simultaneously over a common time period.

19. (New): The method of claim 15 further comprising the step of providing a status feedback to a system operator, wherein the status feedback comprises a duration of recording, a current state of said digital data, serial data, and video data, and a total number of state changes of said digital data, serial data, and video data.